UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,382	09/26/2003	Bharat T. Doshi	Doshi 55-7-23-15-35	8409

46850	7590	04/27/2006

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EXAMINER
URICK, MATTHEW T

ART UNIT	PAPER NUMBER
2113	

DATE MAILED: 04/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

<table>
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<tr><td>10/673,382</td><td>DOSHI ET AL.</td></tr>
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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 September 2003*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Non-Final Official Action

Status of the Claims

Claims 1-11 and 14-20 are rejected under 35 USC 102

Claims 12 and 13 are rejected under 35 USC 103

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by
another filed in the United States before the invention by the applicant for patent or (2) a patent
granted on an application for patent by another filed in the United States before the invention by the
applicant for patent, except that an international application filed under the treaty defined in section
351(a) shall have the effects for purposes of this subsection of an application filed in the United States
only if the international application designated the United States and was published under Article 21(2)
of such treaty in the English language.

Claims 1-11 and 14-20 are rejected under 35 U.S.C. 102(e) as being anticipated

by Lin (United States Patent Application Publication 2003/0065811 A1).

As per claim 1, Lin discloses:

A method for establishing a restoration path for a service in a mesh network

having a plurality of nodes interconnected by a plurality of links, the method comprising,

at a regional manager for one or more transit nodes of the restoration path:

receiving a service data structure comprising an identification of each link and

transit node in a primary path for the service (¶ 34: the primary path is determined); and

determining whether to reserve additional protection bandwidth, on an outgoing

link incident to at least one of the one or more transit nodes of the restoration path,

using the service data structure, wherein the outgoing link is part of the restoration path

(¶ 35 lines 16-28).

As per claim 2, Lin discloses:

The invention of claim 1, further comprising receiving, at the regional manager,

identification of the service (¶ 62: connection ID), identification of the outgoing link (¶ 35

lines 18-22: protection route), and bandwidth of the service (¶ 5).

As per claim 3, Lin discloses:

The invention of claim 1, further comprising reserving the additional protection

bandwidth on the outgoing link, if the regional manager determines that any additional

protection bandwidth is required (¶ 35 lines 28-29).

As per claim 4, Lin discloses:

The invention of claim 3, further comprising transmitting from the regional

manager information about the additional protection bandwidth for communication to

each other node in the network (¶ 63: each node may maintain an updated table).

As per claim 5, Lin discloses:

The invention of claim 1, wherein: the service data structure is a primary path

vector having a plurality of entries corresponding to the nodes and links in the network

(¶ 7 a working route of nodes is designated beforehand); and

each entry of the primary path vector identifies whether the corresponding node

or link is part of the primary path for the service (¶ 7 a working route of nodes is

designated beforehand).

As per claim 6, Lin discloses:

The invention of claim 5, wherein the primary path vector is a primary path node-

link vector V_{pnl} (¶ 7: the term "path" instead of vector is used).

As per claim 7, Lin discloses:

The invention of claim 1, wherein the network is a mesh data network (¶ 2) that

transmits packetized data (¶ 62: data may be transmitted as packets).

As per claim 8, Lin discloses:

The invention of claim 1l, wherein: the regional manager has a network data

structure comprising, for each link in the network and each node or other link in the

network, a representation of a minimum amount of protection bandwidth required to be

reserved on said each link to restore service upon failure of said node or other link (¶ 35

lines 10-15);

the regional manager determines, using the network and service data structures,

whether the service requires the additional protection bandwidth to be reserved on the

outgoing link of the transit node of the restoration path (¶ 35 lines 24-29); and

the regional manager updates the network data structure if any additional

protection bandwidth is determined to be required for the service on the outgoing link (¶

35 lines 28-29).

As per claim 9, Lin discloses:

The invention of claim 8, wherein: the network data structure is an array of

vectors, wherein:

each vector in the array corresponds to a different link in the network (¶ 35 lines

10-15);

each vector in the array has a plurality of entries corresponding to the nodes and

links in the network (¶ 35 lines 10-15);

for a vector corresponding to the outgoing link, each entry in the vector

corresponding to a node or other link identifies the minimum amount of protection

bandwidth required to be reserved on the outgoing link to restore service upon failure of

the node or other link (¶ 35 lines 12-26); and

the service data structure is a primary path vector having a plurality of entries

corresponding to the nodes and links in the network, wherein (¶ 7 a working route of

nodes is designated beforehand):

each entry of the primary path vector identifies whether the corresponding

node or link is part of the primary path for the service (¶ 7 a working route of

nodes is designated beforehand).

As per claim 10, Lin discloses:

The invention of claim 9, wherein the regional manager determines whether the service requires any additional protection bandwidth to be reserved on the outgoing link by applying a vector addition operation between the primary path vector corresponding to the service and the vector of the array corresponding to the outgoing link (¶ 34: an addition operation may be performed to determine bandwidth constraints).

As per claim 11, Lin fails to disclose:

The invention of claim 10, wherein the vector addition operation comprises addition of corresponding vector entries, wherein the additional protection bandwidth is required if any vector entry sum exceeds a reserved bandwidth on the link (¶ 35 lines 26-29).

As per claim 14, Lin discloses:

A regional manager in a mesh network having a plurality of nodes interconnected by a plurality of links, wherein:

the regional manager manages one or more transit nodes of a restoration path for a service in the mesh network (¶ 35 lines 1-9); and

the regional manager is adapted to:

receive a service data structure comprising an identification of each link and transit node in a primary path for the service (¶ 34: a path is determined beforehand); and

determine whether to reserve additional protection bandwidth, on an outgoing

link incident to at least one of the one or more transit nodes, using the service data

structure, wherein the outgoing link is part of the restoration path (¶ 35 lines 16-28).

As per claim 15, Lin discloses:

The invention of claim 14, wherein the regional manager is further adapted to

receive identification of the service (¶ 62: connection ID), identification of the outgoing

link (¶ 35 lines 18-22: protection route), and bandwidth of the service (¶ 5).

As per claim 16, Lin discloses:

The invention of claim 14, wherein the regional manager is further adapted to

reserve the additional protection bandwidth on the outgoing link, if the regional manager

determines that any additional protection bandwidth is required (¶ 35 lines 28-29).

As per claim 17, Lin discloses:

The invention of claim 16, wherein the regional manager is further adapted to

transmit information about the additional protection bandwidth for communication to

each other node in the network (¶ 63: each node may maintain an updated table).

As per claim 18, Lin discloses:

The invention of claim 14, wherein:

the service data structure is a primary path vector having a plurality of entries

corresponding to the nodes and links in the network (¶ 7 a working route of nodes is

designated beforehand); and

each entry of the primary path vector identifies whether the corresponding node

or link is part of the primary path for the service (¶ 7 a working route of nodes is

designated beforehand).

As per claim 19, Lin discloses:

The invention of claim 18, wherein the primary path vector is a primary path

node-link vector V_{pnl}. (¶ 7: the term "path" instead of vector is used).

As per claim 20, Lin discloses:

The invention of claim 14, wherein the network is a mesh virtual-circuit data

network (¶ 2: mesh network; ¶ 62: Lin discloses that virtual paths are created through

the network, referring to them as "connections") that transmits packetized data (¶ 62:

data may be transmitted as packets).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (United States Patent Application Publication 2003/0065811 A1) in view of Mo (United States Patent Application Publication 2003/0037276).

As per claim 12, Lin fails to disclose:

The invention of claim 1, wherein the receiving of a service data structure comprises supporting a signaling protocol interface.

Mo discloses a bandwidth reservation system which uses RSVP-TE protocol to recover a data processing unit on a network (Mo ¶ 4). Mo discloses that this system will enable a network to restore its original state, including recovered nodes and bandwidth reservation without impacting network traffic (Mo ¶ 4-6). Lin also discloses that his invention seeks to allocate protection bandwidth to a network (Lin ¶ 2), even in cases where nodes are removed (Lin ¶ 5) or added (Lin ¶ 7). Using Mo's system would enable a user to do this without impacting traffic on the network, increasing the quality of service. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate RSVP-TE signaling protocol interface into the protection bandwidth system of Lin, increasing the quality of service of the network while maintaining protection bandwidth.

As per claim 13, Lin discloses:

The invention of claim 12, wherein the signaling protocol is reservation protocol with traffic engineering extensions (RSVP-TE).

Mo discloses a bandwidth reservation system which uses RSVP-TE protocol to recover a data processing unit on a network (Mo ¶ 4). Mo discloses that this system will enable a network to restore its original state, including recovered nodes and bandwidth reservation without impacting network traffic (Mo ¶ 4-6). Lin also discloses that his invention seeks to allocate protection bandwidth to a network (Lin ¶ 2), even in cases where nodes are removed (Lin ¶ 5) or added (Lin ¶ 7). Using Mo's system would enable a user to do this without impacting traffic on the network, increasing the quality of service. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate RSVP-TE signaling protocol interface into the protection bandwidth system of Lin, increasing the quality of service of the network while maintaining protection bandwidth.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matt Urick whose telephone number is (571) 272-0805. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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BRYCE P. BONZO
PRIMARY EXAMINER